

Applicant has amended claims 1 and 8 and submits that claims 1 and 7-9 are now in condition for allowance.

Claim 1, as amended, recites in part:

5 a frame having a pair of notched ends adapted to
 receive and engage the stressed cable...

Applicant submits that such an invention is neither taught, disclosed, nor suggested by Kamibayashi '770 or any of the other cited references, alone or in combination.

10 Kamibayashi '770 discloses a portable rope-tension measuring
device 1 including a frame 2 having two rope sockets 26 mounted
on respective support bars 25. Rope sockets 26 are thereby
mounted for supporting two parts of a rope R thereupon. Rope
sockets 26 constitute additional members of the tension measuring
15 instrument 1 that are provided expressly to stabilize the
position of rope R relative to rope supports 25. In
contradistinction, no such additional sockets 26 are required in
the present invention as set forth in claim 1 to receive and
engage the cable. Thus, Kamibayashi '770 fails to teach or
20 suggest the present invention as set forth in claim 1, as
amended.

Furthermore, claim 1, as amended, recites in part:

25 a hydraulic jack... for applying a pulling force on the
 stressed cable...

Applicant submits that such an invention is neither taught, disclosed, nor suggested by Kamibayashi '770 or any of the other cited references, alone or in combination.

Kamibayashi '770 illustrates a tension measuring instrument 1 that employs a compression type load cell 4 to create a deflection in rope R. Not only does Kamibayashi not disclose a load cell capable of generating a pulling force on the rope R, modifying the invention of Kamibayashi so as to instead provide a tensile type (i.e., pulling) load cell would represent a change in principle of operation of the reference (MPEP § 2143.01). Thus, Kamibayashi '770 fails to teach or suggest the present invention as set forth in claim 1, as amended.

For all the foregoing reasons, Applicant submits that claim 1, and claim 7 depending therefrom, are in condition for allowance and hereby respectfully requests that the rejection thereof based upon Kamibayashi '770 be withdrawn.

Claim 8, as amended, recites in part:

supporting the stressed cable with a frame at a selected pair of spaced apart supported points of said frame, each said supported point facing away from the frame...

Applicant submits that such an invention is neither taught, disclosed, nor suggested by Kamibayashi '770 or any of the other cited references, alone or in combination.

Kamibayashi '770 shows two rope sockets 26 provided at a frame 2 of tension measuring instrument 1. Rope sockets 26 for

supporting rope R generally face into frame 2. Accordingly, Kamibayashi fails to teach or suggest the present invention as set forth in claim 8, as amended.

Furthermore, claim 8 recites in part:

5 applying a pulling force...to the stressed cable
 sufficient to deflect the cable...

Applicant submits, in a manner similar to that discussed with respect to claim 1, that the present invention as set forth in claim 8, as amended, is neither taught, disclosed, nor suggested
10 by Kamibayashi '770 or any of the other cited references, alone or in combination.

For all the foregoing reasons, Applicant submits that claim 8, and claim 9, depending therefrom, are now in condition for allowance and hereby respectfully request that the rejection
15 thereof based upon Kamibayashi '770 be withdrawn.

Claims 2, 3, 5, 6, 12-14, and 16-18 are rejected under 35 USC § 103 (a) as being unpatentable over Kamibayashi in view of Proceq SA (SM 55, SM 150). However, Applicant submits that each
20 of such claims is dependent upon one of claims 1 and 8, each of which are now in condition for allowance for the reasons set forth above. Accordingly, Applicant submits that claims 2, 3, 5, 6, 12-14, and 16-18 are also now in condition for allowance.

Furthermore, with respect to those claims utilizing a hook,
25 it is noted that a pulling or tensile force needs to be applied in order to properly transfer force via a hook, such as by the

one disclosed by Proceq SA. However, Kamibayashi '770 expressly uses a compression type load cell. Thus, one of ordinary skill in the art would not have modified Kamibayashi to employ a hook as a means of transferring force to rope R.

5 Claim 6, 13, and 17 stand rejected under 35 USC § 103 (a) as being unpatentable over Kamibayashi '770 in view of Proceq SA as applied to claims 1-3 above, and further in view of U.S. Patent Number 4,423,639 (Grade et al). However, claims 6, 13, and 17 each depend from claim 1. Since claim 1 is in condition for
10 allowance for the reasons set forth above, Applicant submits that claims 6, 13, and 17 are also in condition for allowance, the allowance of which is hereby respectfully requested.

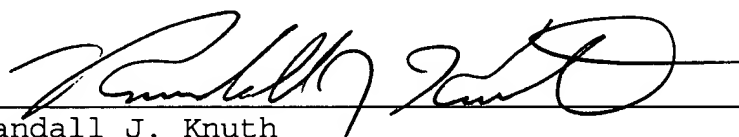
 Responsive to the rejection of claim 10 under 35 USC § 103 (a) as being unpatentable over either Kamibayashi '770 or Proceq
15 SA, Applicant has amended claim 10 so as to depend from claim 8. Since claim 8 is in condition for allowance for the reasons set forth above, Applicant submits that claim 10 is also now in condition for allowance, the allowance of which is hereby respectfully requested.

20 Claims 19 and 20 are added hereby to further protect the patentable subject matter of the present invention. New claims 19 and 20 parallel previous claims 1 and 8 except for the provision that the stressed cable is part of a concrete structure. Since the stressed cable is part of a concrete

structure, it is critical that a pulling force instead of a
compression force (e.g., as set forth by Kamibayashi) be applied
in order to place the cable under tension. Specifically, if a
compression force were used, the cable would be forced in toward
the concrete structure. Applicant submits the invention as
claimed in claims 19 and 20 is supported by the present
specification (e.g., Figs. 1 and 5), and is neither taught,
disclosed, nor suggested by any of the cited references, alone or
in combination.

If the Examiner has any questions or comments that would
speed prosecution of this case, the Examiner is invited to call
the undersigned at 260/485-6001.

Respectfully submitted,


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RJK/mdc10

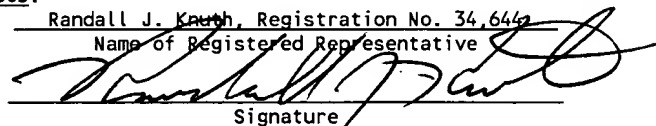
Encs: Marked-up Claims

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Randall J. Knuth, Registration No. 34,644
Name of Registered Representative


Signature

July 7, 2003
Date

MARKED-UP CLAIMS

1 (currently amended): A device for measuring the tension in
a stressed ~~cables~~ cable, said device comprising:

a frame having a pair of notched ends adapted to receive and
engage ~~a said~~ the stressed cable;

5 a hydraulic jack mounted on said frame between its ends for
applying a pulling force on the stressed cable; and

a linear deflection measuring means on said frame, for
measuring the linear deflection of the stressed cable.

2 (original): A device as defined in Claim 1 further
comprising a hook means, said hook connected to said jack and
adapted for engagement with said stressed cable.

3 (original): A device as defined in Claim 2 wherein the
force of said jack is applied to the stressed cable through said
hook means.

4 (original): A device as defined in Claim 1 wherein the
jack is a hydraulic jack.

5 (original): A device as defined in Claim 1 wherein the
jack applies a pre-set force to the stressed cable.

6 (original): A device as defined in Claim 1 wherein said
measuring means includes a gauge mounted onto said frame.

7 (original): A device as defined in Claim 1 wherein the
frame is in the shape of a "V".

MARKED-UP CLAIMS

8 (currently amended): A method of detecting the amount of tension in a stressed cable, said method including the following steps:

supporting the stressed cable with a frame at a selected pair of spaced apart supported points of said frame, each said supported point facing away from the frame;

applying a pulling force utilizing a hydraulic jack to the stressed cable sufficient to deflect the cable relative to said supported points; and

measuring the linear deflection of the stressed cable.

9 (original): A method as defined in Claim 7 wherein the force that is applied to the stressed cable is a known force.

10 (currently amended): ~~A~~ The method of detecting the amount of tension in a stressed cable as defined in claim 8, said method further including the following step: calculating the amount of stress in the stressed cable using ~~a~~ the measured amount of linear deflection, by applying the following equation:

$$T = \frac{F}{2\sin\theta} \quad \text{where } \theta = \tan^{-1} \frac{\Delta}{L/2}$$

wherein the variable "F" refers to the pulling force placed on the stressed cable, "L" refers to the distance between said

MARKED-UP CLAIMS

spaced apart supported points of the stressed cable, " Δ " refers to the deflection, and " θ " refers to ~~the~~ an angle of deflection of the stressed cable.

C 11 (original): A device as defined in Claim 2 wherein the jack is a hydraulic jack.

12 (original): A device as defined in Claim 2 wherein the jack applies a pre-set force to the stressed cable.

13 (original): A device as defined in Claim 2 wherein said measuring means includes a gauge mounted onto said frame.

14 (original): A device as defined in Claim 2 wherein the frame is in the shape of a "V".

C 15 (original): A device as defined in Claim 3 wherein the jack is a hydraulic jack.

16 (original): A device as defined in Claim 3 wherein the jack applies a pre-set force to the stressed cable.

17 (original): A device as defined in Claim 3 wherein said measuring means includes a gauge mounted onto said frame.

18 (original): A device as defined in Claim 3 wherein the frame is in the shape of a "V".

19 (new): A device for measuring the tension in a stressed cable of a concrete structure, said device comprising:

MARKED-UP CLAIMS

a frame having a pair of ends adapted to engage the stressed cable, each said end being adapted for biasing the cable toward
5 the structure;

a hydraulic jack mounted on said frame between its ends for applying a pulling force on the stressed cable, the pulling force directed away from the structure; and

a linear deflection measuring means on said frame, for
10 measuring the linear deflection of the stressed cable.

20 (new): A method of detecting the amount of tension in a stressed cable of a concrete structure, said method including the following steps:

supporting the stressed cable at a selected pair of spaced
5 apart supported points, the stressed cable being biased toward the structure at each said supported point;

applying a pulling force utilizing a hydraulic jack to the stressed cable sufficient to deflect the cable relative to said supported points and away from the structure; and

measuring the linear deflection of the stressed cable.